

WEEKLY EDITION
OF THE

PUBLISHED BY
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APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

Hail May; bright, welcome May,
Charming sunny month of May;
Like the birds, we chant the words,
To welcome, lovely May.

Mr. Winder writes us that he was in no way responsible for the "photos" made at the Bee Congress. The Exposition photographer did the job and got the money. We innocently supposed Mr. W. had something to do with it.

Mr. J. L. Harris, of Wheeler, Ind., says three-fourths of his bees are dead. They came through the winter all right, until the last cold spell, to which they succumbed. He attributes his loss to lack of late breeding last fall.

American Apiculturist.—We have received from Mr. Silas M. Looke, of Salem, Mass., the "American Apiculturist" for 1883-84, bound in one volume. It contains nearly 300 pages, is nicely printed, bound in cloth, and the price is \$2.00.

Backward Spring.—An Exchange remarks that "this is undoubtedly one of the dullest spring seasons we have had in many years, and it seems to be universal in all class of business and all over the country; there seems to be no spirit to buy, and more than all, no amount of dunning seems to bring settlements for goods sold during winter." This complaint seems to be universal, the world over, but "the shadows will soon fly away" when "the sunshine" comes. Let us take fresh courage, and "hope on."

Professor Von Siebold is Dead.—The "Deutsche Illustrierte Bienen Zeitung," for May, announces that Prof. Karl T. E. Von Siebold died at Munich, Germany, on Tuesday, April 7, 1885. Prof. Siebold was one of the first to accept the parthenogenesis theory of Dr. Dzierzon, and has been for years the Professor of Zoology and Comparative Anatomy in the University at Munich, Germany. He also favored the movable comb invention, and was a progressive apiculturist in every sense of the word. To him, as one of the fathers of modern apiculture, we are indebted for much of the theoretical and practical, in the bee-culture of the present day.

Supply Dealers should be more careful when enumerating "Bee-Books and Periodicals." A catalogue on our desk has a mistake in nearly everything named. Among the periodicals are enumerated two which ceased to exist some two years ago, and of the others the prices are wrong in almost every instance. Before getting out catalogues another season, pray do revise the list by the latest BEE JOURNAL.

A Meeting of Nurserymen, florists, seedsmen and kindred interests, will be held in Chicago on June 17-20. An interesting programme has been prepared, promising a profitable occasion to those who may avail themselves of the opportunity. An outline programme, hotel and railroad arrangements, and other information may be obtained by addressing the Secretary, D. Wilmot Scott, Galena, Ill.

Large Sale of Bees.—The "Epoch," Helena, Ark., says that the largest sale of bees on record for Arkansas was made by Mr. Anthony Opp, of that city, to Col. Robt. Adams, formerly of Lexington, Ky., but now a large cotton planter and apiarist, of Chicot County, Ark. The number of colonies bought of Mr. Opp was 200; price paid per colony, \$4.50. This addition to Mr. Adams' large home apiary makes him one of the largest bee-owners in the South.

Not Working for Fun.—Mr. F. L. Dougherty, in the "Indiana Farmer," remarks as follows about the losses of bees in winter: "We cannot decide for others what they should do. While the great loss of bees throughout the State will doubtless discourage many, we are not among these. We expect to make our apiary larger than ever before; we are not working for the fun of it either. Reverses are bound to come, at times, in all pursuits of life."

The Commissioner of Agriculture has called a convention of representatives of the different agricultural colleges and other industrial and educational institutions, to be held in the Agricultural Department Building, at Washington, on June 24, at 10 a. m. The object of this meeting is to obtain concerted action on subjects relating to agriculture, among the various agricultural institutions. It is desired that each institution of the kind send one or more delegates to this meeting.

Winter Losses of Bees.—The "Chronicle," of Norwalk, O., for May 7, contains the following item: "The losses of bees have been enormous. Some bee-keepers have lost their entire stock; others more than half, and almost all have lost severely. Newman Brothers, of this city, estimate their loss at \$2,000. Mr. Joseph Gibbs has lost every colony he had—56 in number. It is said that but two colonies remain in good condition in the township of Bronson. Mr. H. R. Boardman, of East Townsend, is the only bee-keeper in this vicinity, so far as we have learned, who has not had a serious loss." Those who have wintered their bees without loss, are the ones we want to hear from. Will Mr. Boardman please detail his method of management for the benefit of the readers of the BEE JOURNAL? In his letter published on pages 235-6, he says that he made a test of "honey-dew" for winter stores, and still "lost none," when thousands succumbed on account of its use.

Spring has come—the weather is fine, and the "blues" may be banished. We hope to have a fine, rich harvest of nectar. The spring is late, of course, but the bloom of May will come in June, and give just as much honey as if it came earlier. Get the bees ready to gather it when it does come, for "many hands make light work," and the more bees we have, the more money they will gather, if it is to be found.

Bees Breeding.—Mrs. L. Harrison, of Peoria, Ill., says: "Strong colonies increase in numbers very fast, while small ones gradually grow less. I shall stimulate strong colonies, so that they will be able to spare young bees to the weaker. I am now moving the bees to clean hives, and in doing so, ascertain the exact condition of every colony. If I find a queen with few bees, when I move a strong colony many young bees remain in the old hive, and these I give to the small colony. On jarring the hive, the old bees will fly back to their old stand, and I pour the remaining downy ones in front of the weak colony."

Hibernation.—In reference to the use of dogmatical expressions, complained of by Rev. W. F. Clarke, on page 216, Prof. A. J. Cook replies in "Gleanings" as follows: "Of course, I ought to have said, 'In my judgment, bees never hibernate.' Let me add that I do not plead guilty to all the harsh sayings I am credited with. I mean always to be courteous. Reporters at conventions must be brief, and so they often give our assertions a sharp twang that we are not responsible for."

He then discusses the theory of hibernation as follows: "Hibernation I understand to be like sleep, only far more profound and persistent. In this state, respiration is greatly reduced—the temperature falls nearly or quite to that of the surrounding air, the heart beats very feebly, and has power, through heightened irritability, to circulate impure or venous blood. The animal, when hibernating, takes no food, is torpid, and hard to arouse. In real hibernation there is no emission of fecal matter. Most insects do hibernate; indeed, so profoundly that all respiration and circulation are held in abeyance. I have had caterpillars frozen to the condition of an icicle, and yet, with warmth, revive and seem all right. De Geer, Reaumur and Kirby, all record the same startling fact. Now, how is it with our hive-bees? The organs of the mammals, in hibernation, are as cold, often, as the surrounding air. I have found, by putting a thermometer into the cluster, that in the case of bees the temperature will always range from 20° F. to 30° F. above the outside cold in winter. In severe weather there may be a difference of from 60° to 80°. We thus see that the vital action of bees does not fade out, and, of course, the mainsprings of this action, the heart and respiratory organs, do not greatly lessen, or, much less, fade away. Bees also take food, are constantly changing their position, and are easily aroused. I do not believe that bees can be taken at any time, unless fatally or seriously chilled, and the cluster be broken, in a warm room, and they not show full activity. Therefore I repeat, I do not think that our bees hibernate. The great Kirby, of England, is in accord with this. He says bees do not hibernate.—(See Ency. Brit., Vol. II., page 787)."

QUESTIONS

WITH
REPLIES by Prominent Apirarists.

Feeding Back Extracted Honey.

Query, No. 64.—Does it pay to feed back extracted honey to queenless colonies for the purpose of having them store it in the sections?—A. O. C.

PROF. A. J. COOK remarks thus: "Not generally; some may make a success of this feeding back."

G. W. DEMAREE replies as follows: "'Feeding back,' in my opinion, will never pay, except, perhaps, to finish up sections."

DR. G. L. TINKER remarks thus: "Probably not, unless it is to get partly-filled sections completed."

G. M. DOOLITTLE replies as follows: "Why say 'queenless colonies?' I did not know that such were used for that purpose. I have failed to make 'feeding back' profitable."

JAMES HEDDON says: "I should say no. It is much better that colonies used for 'feeding back' purposes are not queenless."

Laying-Capacity of a Good Queen.

Query, No. 65.—Messrs. Boardman, Miller, Cook, Hutchinson and Heddon unanimously agree, on page 196, that 8 Langstroth frames are sufficient for the brood-chamber of a strong colony; Mr. Doolittle even reduces the number to 7. An 8-frame Langstroth hive (standard size) if ENTIRELY occupied by worker-comb, contains 1,168 square inches of comb, or 58,400 cells. From this we must deduct at least 10 per cent. of the space for the usual supply of honey and pollen, leaving 52,560 cells. Allowing 21 days for the bee to hatch and one day for the bees to fix the cell and for the queen to find it again, we have an average of a little less than 2,400 cells for the queen to fill per day, and with Mr. Doolittle's 7 frames we have a trifle over 2,100 cells. Now, I wish to ask this question: Do Messrs. Boardman, Miller, Cook, Hutchinson and Heddon, consider 2,400 eggs the utmost daily laying-capacity of the queen of a strong colony? and does Mr. Doolittle consider 2,100 cells sufficient? or do they all think that there is not 10 per cent. of the space occupied by honey, pollen, or defects, or passages in the combs? Or do they not care whether the queen can lay to her utmost capacity in the breeding season? I ask these questions because many besides myself consider even the 10 frames in a Langstroth hive, as hardly sufficient for the laying-capacity of the best queens.—Critic.

G. M. DOOLITTLE says: "If a colony having a very prolific queen is given 30 Langstroth frames, using but 8 to start with, and adding 2 or 3 until the 30 are all in, it will be found that such a queen will lay from 5,000 to 6,000 eggs daily and die of old age, or exhaustion, when but 18 to 24 months old; while with a small brood chamber, she will give as good results in comb honey and live for 4 or 5 years. Besides, all queens are not alike prolific, so I use a brood-chamber so small that all queens will keep it filled with brood."

W. Z. HUTCHINSON remarks thus: "I do not consider 2,400 eggs the utmost daily laying-capacity of a queen; but, instead of uncapping honey,

spreading the brood-nest, practicing stimulative feeding, etc., I simply reduce the size of the brood-nest to such an extent that an ordinary queen will keep it full of brood without any 'horse-whipping.' Queens, as they are ordinarily produced in an apiary run for honey, cost nothing; combs and hives do. Why not have a sufficient number of queens to keep all of the combs filled with brood, without the extra work of manipulation that is required to induce an ordinary queen to keep 10 combs full? The capacity of the brood-nest should rather be below than above the capacity of the average queen. Unless this is the case, the outside combs are often dead capital."

JAMES HEDDON answers: "Who cares if a queen can lay 5,000 eggs daily during a certain period? What is the price or worth of that kind of eggs? Queens cost almost nothing, compared with combs and fixtures. The matter is not to always keep all queens employed, but just the reverse—always keep all combs and other capital employed. A hive that is large enough to always keep the fertility of the queen supplied with room, will have too much capital lying idle a large share of the year, and be a bungling hive at that. If I made no error, I had a German queen whose fertility reached a little over 4,000 eggs daily, for a short period. But what of this? It is the quality of bees from all our queens, and not the quality from any one queen, that we are seeking. Bees are valuable; eggs are not. Sometimes it costs more to rear bees from eggs than the bees are worth."

PROF. A. J. COOK remarks thus: "I think and know by actual observation, that a queen may lay over 3,000 eggs per day; but I think that 2,400 would be a good maximum average. Rain, cold, disturbance—many things retard the activity in the hive and of the queen. Experience seems to show me that for comb honey, 8 frames for Langstroth hive is best. This keeps the frames full of brood and puts honey into the sections."

Shaded Bees and Swarming.

Query, No. 66.—Will bees that are sheltered from the sun's rays swarm as early as those not so shaded?—J. H. A.

W. Z. HUTCHINSON replies thus: "No."

JAMES HEDDON replies as follows: "Not as a rule, here."

PROF. A. J. COOK answers thus: "Very likely not. Much sun and warmth in the spring promotes rapid breeding, and so induces early swarming."

G. M. DOOLITTLE says: "Not as a rule; especially if the shade is from some densely-leaved tree."

DR. G. L. TINKER replies thus: "No; but the size of the brood-chamber and the surplus apartment, and the amount of ventilation, has more to do with it than the sun's rays."

G. W. DEMAREE answers: "So far as theory goes, they will not; but the facts show that bees go by no 'rule' when it comes to swarming. If you want increase badly, your bees will most likely tarry in the sun or in the shade; but if you have as many bees as you want, they will begin to swarm before breakfast, and swarm late and early."

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., May 18, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light. Prices range from 10¢ to 15¢ for best grades of comb honey, and for extracted, 5¢ to 7¢.
BEESWAX.—Best grade weak at 28¢.
R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16¢ to 18¢; the same in 2-lb. sections, 15¢ to 16¢; fancy white California 2-lb. sections, 12¢ to 14¢. Extracted weak, 6¢ to 8¢. Sales very slow.
BEESWAX.—32¢ cts. per lb.
BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY.—Present sales of comb honey are very slow, and owing to the lateness of the season, we do not anticipate any change in prices until the new crop commences to arrive. We quote at present as follows: Fancy white clover in 1-lb. sections, 14¢ to 15¢; fair to good white clover in 1-lb. sections, 12¢ to 13¢; fancy white clover in 2-lb. sections, 13¢ to 14¢; fair to good white clover in 2-lb. sections, 11¢ to 12¢; fancy buckwheat in 1-lb. sections, 9¢ to 10¢; fancy buckwheat in 2-lb. sections, 7¢ to 8¢. (Ordinary grades, no sale. Extracted white clover, 7¢ to 8¢; extracted buckwheat, 6¢ to 7¢.
BEESWAX.—Prime yellow, 32¢ to 33¢.
MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY.—Nothing new has transpired in the market. Demand has improved for good qualities of extracted honey, but the large stock on the market keeps prices low. It brings 5¢ to 6¢ on arrival.
BEESWAX.—It is in good demand and brings 26¢ to 30¢ on arrival.
C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY.—Nothing is doing on export account, and very little local trading. There is considerable honey still on the market, but stocks do not include much of strictly choice quality. White to extra white comb, 8¢ to 9¢; dark to good, 4¢ to 7¢; extracted, choice to extra white, 4¢ to 5¢; amber colored, 4¢ to 4½¢.
BEESWAX.—Quotable at 23¢ to 25¢—wholesale.
O. B. SMITH & Co., 423 Front Street.

ST. LOUIS.

HONEY.—Steady; demand and supply both small. Comb, 12¢ to 14¢ per lb., and strained and extracted 5¢ to 6¢.
BEESWAX.—Firm at 32¢ to 33¢ for choice.
W. T. ANDERSON & Co., 104 N. 3d Street.

CLEVELAND.

HONEY.—Since our last report there has been a little better demand for honey, and some sales have been made at 13¢ to 14¢ for best white honey in 1-lb. sections. Second quality is still very dull at 12¢ to 13¢. Extracted is not salable at any price in our market.
BEESWAX.—Scarce at 28¢ to 30¢.
A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY.—Demand for choice white comb in ½, 1 and 2-lb. sections is good, and prices fairly maintained. Half-pound sections, 15¢ to 16¢; 1-lb. 13¢ to 14¢; 2-lb. 10¢ to 11¢. Extracted slow at 5¢ to 7¢. We could sell some ¾-lb. sections of comb honey and a few more nice white 1-lb. sections.
BEESWAX.—25¢ to 30¢, according to quality.
CLEMONS, CLOON & Co., cor. 4th & Walnut.

SAN FRANCISCO.

HONEY.—We quote comb honey in 2-lb. sections 13¢ to 14¢; extracted, 6¢ to 7¢.
GEO. W. MEADE & Co., 213 Market.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; ♂ east; ♀ west; and this ♂ northeast; ♀ northwest; ♂ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Use of Comb Foundation.

JAMES HEDDON.

Our early teachings were that from 18 to 25 pounds of honey must be consumed by the bees to enable them to produce one pound of wax, or virgin comb. I never believed that it took so much honey, but I could not dispute it, because the authorities said so, and I had made no tests; and so we all stood by those figures.

When comb foundation was ushered in, it was found to be a good thing, an economical thing, and among others of the reasons why, was the great amount of honey saved by its use. Practical experience has convinced honey-producers that about one-half of the above-mentioned amount of honey is all that the bees require to build one pound of comb. It has also proven true that with some varieties of comb foundation, and qualities of wax of which comb foundation may be made, that bees will sometimes fail to utilize the comb foundation given them, and merely taking it for a base, build upon that base.

When honey is at a very low price, some bee-keepers begin to inquire about the profit and loss in using comb foundation. The mind, like the body of man, seems to be a bundle of actions and re-actions, and let the claims of anything once over-reach the truth, and many will think the whole claim based upon fiction. At one time many thought comb foundation to be intrinsically worth \$5 per pound; then \$2 per pound; and now the question is being asked, "Is it worth to invest in it at 50 cents per pound?" Having used possibly 10,000 pounds of all kinds of comb foundation, from that made by the first mill to the almost perfect comb foundation of to-day, I will give my opinion on this question.

All know the present price of honey—the ultimatum of our business. One of the largest honey-producers in America, and a man who stands high on the Board of Trade, and whose judgment need get behind that of no other bee-keeper in this country, cheers me on with the statement that he believes that the next twenty years will pay a wholesale net-price

of 16 cents per pound for prime comb honey. This will put extracted at 8 to 9 cents per pound. Taking this for a basis, what is comb foundation worth to the honey-producer to use in full sheets in the brood-frames and sections? What is its value in the brood-frames as a saving of material, time and labor? Also as a perfect guide not only as to the straightness of the comb, but the kind of cells that such comb shall possess? I must say, certainly much more than the price of to-day.

Nearly, or quite all of those who are doubting the economy and comfort in the use of comb foundation are unwilling to give it up for surplus honey. I say so, too. I would use it, there, if it cost \$1 per pound, and always in full sheets. I believe that we are making the mistake of using it too thin in the surplus boxes, and too heavy in the brood-frames. This arises from two fears—"fish-bone" and wires. For three years I used full sheets of comb foundation in surplus boxes, of the weight that is now used for brood-frames. It was before comb foundation was made of different weights for different purposes. It averaged about 4 to 5 square feet to the pound, and during those three years no person, except my assistant and visiting advanced bee-keepers, ever saw comb foundation in my yard. Not a person in this county would have known what was meant, had the words comb foundation been mentioned. Only one person in three years—one among thousands consuming my honey—ever signified anything uncommon regarding the combs, so far as ever came to my knowledge. Hundreds praised the honey. Does not the "fish-bone" scare come from the same source as the adulteration scare—from the bee-keepers themselves?

I much prefer to have comb foundation no lighter than 8 to 9 square feet to the pound, and I am not sure that it would not pay well to make and use it heavier. Regarding comb foundation for the brood-frames: I believe that wax has been lost by making it so heavy as 4 square feet to the pound, which I believe has been done in many cases to bolster up the claim that wires were not needed in brood-frames. Last year I experimented some regarding the most economical weight to make comb foundation for the brood-frames, and I feel confident that foundation from 6 to 8 square feet to the pound, used in full sheets in wired frames, is indicative of wisdom and economy.

For my own part, I never expect to place a brood or surplus frame with my bees until I fill it completely with comb foundation. I can vividly remember the *modus operandi* and its results when managing bees without comb foundation; next with comb foundation as guides only, and much of it of poor quality; and then of the several years that we have used it in full sheets, first without wires, and then with wires, and it is my firm conviction that any who may now be doubting its use and economy, will finally use it thus, after passing

through the experimental period and learning just how to arrange all the minor conditions.

Dowagiac, ♀ Mich.

Read at the Bee-Keepers' Congress.

Honey Production of North Carolina.

ABBOTT L. SWINSON.

The improved methods of apiculture are but little known or practiced in our State. There are but few practical apiarists—not one to each county throughout the State, there being 95 counties, covering an area of 48,580 square miles. In this territory there are, approximately, 47,500 colonies of bees; of this number there are possibly 2,000 in movable-frame hives in the hands of young bee-keepers; and of the number mentioned there are probably 250 colonies of pure Italian bees, 1,000 colonies of hybrids, and the remainder are our common black or German bees kept in the old style "gums" and box-hives.

There is annually produced and sold at least 50,000 pounds of beeswax at an average price of 20 cents per pound, amounting to \$10,000. She produces an average of 5 pounds of honey per colony, equal to 237,500 pounds in all, which is sold at an average price of 8 cents per pound, or \$19,000. The total value of beeswax and honey produced annually, is \$29,000. The average price paid for a colony of bees in a "gum" or box-hive is \$1.50 each; the average increase is 40 per cent.

Bees need no protection during winter on the summer stands. Those kept here (Wayne county) in movable-frame hives produce, on an average, 50 pounds of comb honey. They would do much better in the Eastern or Western parts of the State, as the bee-range is better. There is no real failure of honey-flow the year round in my section of the State. I think that we can safely count on 30 pounds of surplus comb honey per colony, one year with another, when handled by a practical apiarist. Our main honey-flow is during May, when the resources are inexhaustible from poplar, black-gum, holly, low-bush, huckleberry, and gallberry, with which the eastern part of the State abounds. Bees breed all through the winter, and take a flight one day in nearly every week. Queens may be bred and fertilized in April and on to Nov. 1.

Goldsboro, ⊙ N. C.

For the American Bee Journal.

Linwood Convention.

The Linwood Bee-Keepers' Association met at Rock Elm, Wis., on May 4, 1885. After being called to order, and the usual routine of business was finished, considerable time was spent in perfecting the organization; and a new constitution and new by-laws were adopted.

Each bee-keeper present was called upon to give his method of wintering bees, and nearly all wintered their bees in cellars. All agreed that out-

door wintering would not do in this climate. The time of taking bees out of the cellar was discussed, and the opinion was that they should be kept in as long as possible, or until the weather warranted removing them; also, that in taking them out considerable caution should be exercised in order to prevent mixing.

Mr. Wm. Fuller read an essay on "Italianizing bees." He first gave some points of superiority possessed by the Italian bees as follows: 1. They stick to the combs better, so their work is not interrupted by handling. 2. They are quieter in winter quarters. 3. They will work in rougher weather than other bees. 4. They are proof against moths. His method of Italianizing is to take a comb with a queen-cell in it, or put one in it, and then put the comb into a hive with other combs, move the hive with bees which you wish to Italianize, some distance away, and put the new hive where the old one was, and the returning bees will go into the new hive and build up a colony of Italians.

Black bees vs. Italians as honey-producers was debated. A difference of opinion prevailed, and the discussion was lively, but the majority were in favor of the Italians.

An essay was read by Mr. A. C. Sanford, on "Marketing Honey." He said that honey should be put up in as neat and attractive a manner as possible, and in such sized packages as the market demands; also that summer and fall honey should be graded separately.

Those present reported 294 colonies, last fall, and 181 this spring. The Association then adjourned until the first Tuesday in September, 1885.

B. J. THOMPSON, Sec.

Gleanings.

Apis Dorsata, the Large Bee of Java, Captured at Last.

A. BUNKER.

I have at last captured a swarm of *Apis dorsata*, and have it safely hived in an observatory hive. There are about half a bushel of bees, and are they not magnificent fellows? My hive is about 6 feet tall, and 3x3 wide and deep. The bees were secured on a very high tree, on which were 13 other colonies. The limb was cut off, and forms the top-bar for the comb, and hangs like a movable frame in the hive. I have had a sheet of glass, 9x16 inches, put into the back of the hive, and a door made to shut all up, when one does not want to watch them. The brood-comb is about 14x16 inches, and is solid with brood. I see no pollen or honey in the comb. There are young and old bees. The old have the abdomen a bright yellow, with narrow black bands, while the young (?) are much darker in color; but I cannot speak with much certainty, for I have not studied them long enough yet. They sting, but the sting is not much worse than that of the *Apis Indica*—at least I judge so; for in putting them into place, my

assistant was stung four times, but it was not followed by swelling. The sting is much larger than the common bee, of course; and as one of my Karens said last night, "It makes a hole at once." Yet, I judge that it is bearable.

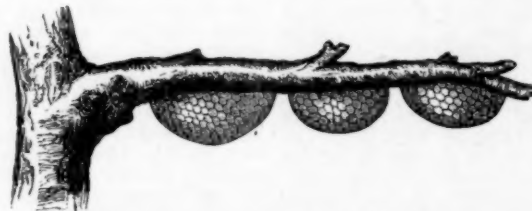
Their wings are beautifully iridescent; and looking at them on their comb by night, with a strong light, they are most beautiful. This morning they are going out of and into their hive, and looking all about their home. Will they stay and go to work or not? is the question; we shall see.

One thing I notice: They are far less excitable than *Apis Indica*. They move slowly, do not dash about their cage, and struggle for exit like that bee. They impress one, however, with an idea of "reserve power," if they have a mind to use it. I do not think they are quick on their combs to repair damage, but I cannot yet speak with definiteness. I also have a swarm of the "*melipona*" working well.

I have been studying the *Apis dorsata*, and there seems to be two kinds of this bee in Burmah, each quite distinct, though I have not yet secured

their former place of abode. This is especially true of the yellow kind, which occupies a chosen tree or trees in a particular locality, year after year, so that the natives buy and sell these trees as valuable property.

I judge that these bees migrate to some distance to the north, for these reasons: 1. The reason why they migrate at all, seems to be the exposed position of their nests, on the under side of the limbs of high trees, exposed to all weather. The high winds and violent showers of the beginning of the monsoons would always destroy their nests. I never saw a nest survive the rains; hence, migrating on account of the rains, they must needs go to a climate where the rains are less violent, or where they can find sheltering cliffs in which to build. 2. When they return they are often found resting near the ground, before selecting the tree on which to build a new home. Sometimes they will rest there a week and then take flight again. At such times they are very cross, and the natives are very careful not to go near them. There are no cliffs or rocks in Burmah in which these bees



HOW THE COMBS ARE BUILT BY *APIS DORSATA*.

specimens for comparison. One kind is yellowish in color, and usually builds nests on the limbs of very high trees, or in rocky cliffs, while the other is nearly black, hairy, and builds in thickets, or limbs of trees, or on creepers, often near the ground. Both are unicombed bees. The former kind is often vicious; the latter is very gentle, according to all reports, and the natives have no fear of it at all. They often approach the nest of the latter by daylight, and take off pieces of comb, without smoking or protection of any kind whatever, and without often being attacked by the bees. The former kind defends its nest with great vigor; and if they once set upon an enemy, they follow very persistently for a long distance, and sometimes natives thus pursued must make to a neighboring stream to escape. One ruse for escape is to break off a thickly leaved bush and plunge into the water, and allow the branch to float down with the current, while the fugitive plunges into the water. The bees then follow the branch down stream, and lose sight of their victim. Yet, the first kind with the yellow markings is not always so vicious, as they can be easily subdued with smoke; and if handled carefully they seem to be as gentle as many kinds of *Apis mellifica*. Both kinds leave Burmah at the beginning of the rains, and return on Feb. 1, each year. They usually return to

can build; if there were, they might remain here the year round, as I understand they do in Ceylon and in Northern India.

In the Padung-Karen country, about 80 miles northeast from Toun-goo, these bees are in some sense domesticated, as are also the *Apis Indica*. In order to secure the services of the *Apis dorsata*, the Padungs dig a trench in a side hill, and drive a stout stake, inclined about 45° toward the down slope of the hill, into the ground, and lean branches of trees against the stake on either side, making a shield from the wind. The *Apis dorsata* returns to these places year after year, and the natives secure bountiful harvests of wax and honey, always leaving some for their yellow workers. May it not be that the *Apis dorsata* builds one comb, only because it does not usually find a place to build double combs? The comb is so large that it must indeed be a large limb of a tree to give room for double combs.

From all inquiries which I have made, I am strongly inclined to believe that the *Apis dorsata* can be domesticated, especially the black-colored species. Yet, to insure success, doubtless much study must be given to the habits of this bee, and all the conditions of domestication be approached as near as possible to their wild state. The fact, as I am informed, that, in regions of less rain,

in cliffs and rocks, these bees are found year after year, goes to show that migration is not necessary to this bee as to "birds of passage," etc.; that if the conditions are favorable they may be kept the year round. The fact that these bees can be mistaken for hornets by the natives, as in Mr. Benton's experience in Ceylon, shows how little we can depend on their judgment in such matters.

Toungoo, Burmah, Feb. 28, 1885.

For the American Bee Journal.

Honey-Dew for Winter Stores.

J. W. BAYARD.

In July of 1884, after the heat and drought had destroyed all the white clover, as well as other honey-producing flora, my bees completed their work of filling the sections, with honey-dew from the leaves of the forest—such as ash, hickory, walnut, buckeye, chestnut and maple. During the flow of honey-dew, not from flowers, but from bark-lice and aphids, some of my colonies cast about 4 or 5 swarms. I gave them a full complement of nice, clean combs with the hope that they might provide for winter stores from fall flowers; but the thing grew desperate, and about Sept. 1 I found them on the point of starvation.

I now determined to make a test of the possibility of wintering bees on honey-dew (of which I had a large surplus), and so I fed them up liberally. They at once commenced breeding, and by the last of October 2 of the late colonies were up to the maximum of prime ones, and 2 others in a very satisfactory condition. About Nov. 10, I made a critical examination of all the combs, but I found neither eggs, larvæ, nor brood, and not the shadow of pollen, for the reason, that all they were able to gather from corn-blossoms and otherwise, was consumed in filling up their ranks with young, vigorous bees.

On Nov. 23 winter commenced, but at the end of about three weeks we had three days of beautiful weather which induced a universal flight of all the colonies, not one of which showed the least symptom of disease, save the 4 above-mentioned; their condition showed the worst possible type of diarrhea, as fully one-half of each colony lay dead on the bottom-board, while others too sick to fly, simply tumbled out of the hive and died on the ground. Determined to give them fair treatment, and make a fair test of the experiment, I cleaned them all up and dried out their hives, preparatory to another siege of frost and snow, which continued throughout February. This settled it; for long before March dawned upon them, every bee in the 4 colonies was dead, and that, too, from eating honey-dew, pure and simple, as a winter diet.

In this connection, bee-keepers might feel anxious to know the condition of my other colonies (80) at the close of a hard winter, and after the storage of such an abundant crop of honey-dew as we enjoyed last season.

At the first flight after their long confinement in February, every colony that had yielded a surplus of honey-dew, showed alarming symptoms of diarrhea—as smearing the fronts of their hives and spotting the snow in all directions, the color of the excreta being almost identical with that of the honey-dew itself, as stored in the combs. On the other hand, all the colonies that produced a surplus of white clover honey, were not only free from disease, but showed quite a small percentage of loss compared with the former.

In offering the foregoing, I promulgate no theory or pet notion, but give simple facts as they developed before my own eyes, and under the guidance of my own hands. On pages 499 and 537 of the BEE JOURNAL for 1884, timely warning was given, not to trust the honey-dew as winter stores for bees, except, perhaps, as an experiment; and I shall anxiously await reports from all those who have applied the tests and reached conclusions during the winter just ended. Then, if we have added but one grain to the great store-house of knowledge in the science of apiculture, we shall be more than compensated for all our sacrifice and trouble. That more than one potent factor underlies the destruction of our bees in winter, has been clearly demonstrated from time to time; and now the proper thing for bee-men to do, is to search for a thorough remedy through the various channels of experience and fact.

Athens, O.

Read at the Bee-Keepers' Congress.

Honey-Production of Tennessee.

W. P. HENDERSON.

I have no means of knowing, so as to give an approximating accurate statement of the amount of honey and wax produced in Tennessee. The last census, although very unsatisfactory in some respects, gives the only data to which we can refer, and I suppose the following paragraph, taken from a late paper, was taken from it:

"The annual report of the Department of Agriculture, makes this record: Corn production for 1884, 1,795,000,000 bushels; wheat, 513,000,000 bushels; oats, 583,000,000 bushels. These aggregates are the largest ever recorded, the rate of yield being 25.8 bushels of corn, wheat 13, and oats 27. Tennessee produces more honey than any other State in the Union, the annual crop being over 2,000,000 pounds. New York comes in second best."

It may be that since the taking of the census in 1880, the Department of Agriculture at Washington, through its numerous local reporters, have gathered statistics monthly and yearly of the production of honey, as of wheat, corn, oats, live stock, etc.

The mortality of bees throughout Tennessee during the winter of 1884-85 was great, due almost entirely to starvation. But little honey was gathered after July of 1884, and I may

say that the fall crop was a total failure. This was, no doubt, due to the unfavorable state of the atmosphere for the secretion of nectar in the fall bloom. I expect that an unusual amount of wax will be offered in the market in the spring, as a large majority of the bee-keepers in our State use the primitive "gum" and box, and know of no other way of utilizing the empty combs, except to melt them into wax. Prejudice and ignorance, coupled with the fact that so many have been imposed upon by patent vendors of clap-trap, moth-proof hives, may have deterred many otherwise intelligent persons from adopting the movable-frame hives. We have the country, but what we need is intelligent and posted bee-keepers. Murfreesboro, Tenn.

For the American Bee Journal.

Western Bee-Keepers' Convention.

The Western Bee-Keepers' Association held their semi-annual meeting in the Court House, at Independence, Mo., on April 23 and 24, 1885. The meeting was called to order by the President, A. A. Baldwin, at 11 a. m., on April 23. The Secretary read the report of the last meeting, which was approved. A committee to select subjects for the consideration of the convention, was appointed by the President. At 12 m. the convention adjourned until the afternoon.

At 1:30 p. m. the convention re-assembled and took up the following question: "How shall we manage our bees to put them in the best possible condition for the season's work?" which was discussed at length with the following conclusions: Contract the brood-nest to the number of combs the bees can cover, keep plenty of honey or syrup in the hive, and spread the brood and add extra combs as fast as the increase can cover them.

The second subject was, "How shall we manage our apiaries during the swarming-season, in order to obtain the best results?" After a long discussion the following conclusion was reached: Let the bees swarm naturally, and if increase is desired, take the old queen and a part of the bees, and hive them on empty combs or foundation, and return the bulk of the bees to the old colony; in six days destroy all queen-cells, and give a queen-cell ready to hatch. This is the method adopted by Mr. L. W. Baldwin and the Secretary, and has proven satisfactory.

"How shall we care for our honey?"—a very important question to apiarists and honey-dealers—was discussed at length, and the general conclusion arrived at was, that it should be kept in a warm, dry room where it would not undergo the process called "sweating."

The discussion of the question, "How shall we dispose of our honey?" concluded the afternoon session. The result was a diversity of opinions as to how the honey crop should be sold; but the more favored of which was that it should be sold at wholesale or through commission houses.

The evening session was occupied with a general discussion of topics important to bee-keepers.

The second and last day's session was the most interesting ever held by the Association. There were present several prominent bee-keepers from abroad. The usual routine of business of the convention was taken up first and disposed of; then the question, "How shall we prepare our bees for winter," was taken up. Mr. L. W. Baldwin gave his 20 years' experience in favor of good cellars for wintering. Mr. E. M. Hayhurst gave his experience in favor of chaff packing and out-door wintering. Mr. Jas. H. Jones was also in favor of chaff packing and wintering on the summer stands. He had wintered his bees very successfully during the past winter, both in the cellar and on the summer stands well packed in chaff. Mr. Jas. A. Nelson favored a good, dry cellar, but had wintered bees on the summer stands for 6 years without loss.

The question was asked, "What shall we do with the empty combs?" In answer, Mr. Hayhurst advised storing them in closets made especially for that purpose, and thoroughly fumigating them with sulphur. In regard to fall feeding, Mr. Hayhurst thought the best way was to feed the strong colonies, and let them do the storing, and after the food is sealed in the combs, remove them to the colonies in need of food.

A resolution was entertained as to the presence of pollen in the hives, which resulted in a full expression that pollen is not detrimental to the successful wintering of a colony of bees in a normal condition. Mr. Baldwin asked the question, "What is the best and cheapest means of shading hives artificially, and is it necessary?"

The convention thought that shading was necessary. Many suggestions were made, and the matter was left to the choice and convenience of the bee-keepers. At 12 m. the convention adjourned for refreshments, after which to meet at the apiary of Mr. L. W. Baldwin.

At the afternoon session, after reviewing Mr. Baldwin's apiary and learning several practical lessons, the convention discussed the subject of the healthfulness of bee-keeping, with the final conclusion that it was a really healthful occupation.

It was decided that the Secretary be requested to continue to prosecute the duties assigned him as a Vice-President of the National Bee-Keepers' Society, and if needs be, call any to his assistance as seems best in his judgment, and that the Association re-imburse him in any outlay of money in the accomplishment of the duties of conferring with the various transportation lines in securing an equitable scheduling of the products and material of the apiary. The convention then adjourned till the annual meeting, six months hence, to be held at a place and time to be determined by the executive committee.

C. M. CRANDALL, Sec.

A. A. BALDWIN, Pres.

Read at the Bee-Keepers' Congress.

Honey Production of Virginia.

J. W. PORTER.

The flora of our State is abundant and greatly varied; being well watered in every part, with two great mountain ranges largely covered with timber, its sylvan character is equally varied. All the varieties of trees common to the great Middle States are found within her borders, and very abundant in many sections are many of the honey-producing varieties, such as the tulip, the yellow, white and honey locust; and the chestnut, the willow, and the alder. The maple and linden do not abound as they do farther north, but they are quite plentiful in some sections. The orchards, meadows and pastures all over our State supplement the large ranges of the forest, and afford sources of production which are as yet very little utilized. Many varieties of the goldenrod, the asters, and above all the blue thistle—which is very abundant in sections, and affords a nectar of rare excellence—the nettle, the Spanish-needle, and catnip, with many other honey-producing plants, are common. In natural resources for honey-production, I doubt if there is any State in the Union which surpasses Virginia.

How are the natural resources improved? Everywhere in the State one may find men familiar with hunting bee-trees, and in every neighborhood the log "gum" or the box-hive. Here and there we will find a progressive bee-keeper who is trying to keep up with the times, but the great body of those who keep bees are content to plod along as their forefathers did. Their productions are not seen in the great markets, and very rarely anywhere outside of the farm house.

The writer's own production of honey—6,000 pounds in 1884—largely exceeds that of any bee-keeper known to him in Virginia. He believes he could treble it were he able to give apiculture his undivided attention. From a somewhat extensive acquaintance with the markets, I judge that very little more honey is exported from the State than is imported; certainly not more than 10,000 pounds.

Charlottesville, Va.

For the American Bee Journal.

Central Illinois Convention.

The Central Illinois Bee-Keepers' Association met at Jacksonville, Ills., on May 2, 1885. At 1 p. m. Vice-President Bowen called the meeting to order, and after the minutes of the last special meeting had been read, the topic of wintering bees was taken up.

Mr. A. Reid reported a loss of 2 colonies out of 7, caused by stores giving out in the combs upon which the bees were clustered, while too cold for them to move to full frames.

Mr. J. M. Hambaugh, of Versailles, uses the Langstroth hive, and prepared his bees for winter by placing

them in a temporary house made of fodder; but out of 60 colonies he lost 20. He put them out twice during the winter, the last time being in February. He was of the opinion that honey-dew and unsealed honey is bad winter food, and was the cause of much loss.

Mr. J. R. Lieb, of Scott county, wintered 100 colonies in common hives on the summer stands, and lost 30. A neighbor with 40 colonies in common hives lost 13; another with 50 in Common-Sense hives, lost none.

Mr. Thos. Kershaw, of Concord, has 9 colonies left out of 17. They starved for want of honey.

Mr. Middleton, though the high winds were well broken from his hives, lost all but 8 colonies out of 30. He uses Langstroth hives with only eight frames, and thinks it too small capacity for both the brood and the winter stores.

Wm. Camm reported a loss of 55 colonies out of 113. Colonies in hives that were sheltered wintered better than those that were exposed. A cross between Cyprian and Italian he thought the hardiest race. He preferred that the sun should shine upon his hives in winter. He left his hives on the summer stands, merely placing quilts over the brood-chambers. He thinks that we will have to make warmer hives and use more shelter in this climate.

Vice-President Bowen lost 7 out of 11 colonies in modified Langstroth hives.

Mr. C. P. Dadant, of Hamilton, lost 125 colonies out of 425. Out of 40 put into the cellar, only 6 were lost. He lost the most in hives with shallow Langstroth frames; the least in deep Quinby frames. He thought instinct misguided bees when it prompted them to carry in the juices of fruits for winter food.

Mr. Camm, though admitting the bee to be a domesticated insect that needed the intelligence of man to complement its instinct, preferred to trust his bees with regard to their own food, as he had known them to do well in exceptionally hard winters with stores that bee-keepers almost universally condemned.

Mr. Dadant allowed the bees to remove all dead bees from the combs; but Mr. Camm said that he carefully removed them himself, as the queen refused to lay in combs with dead bees in them, and the cells had often to be cut down to the septums in order to get the dead out.

On the question of relative profit between comb and extracted honey, Messrs. Hambaugh and Dadant thought that extracted honey was the most profitable, as so much more could be obtained, especially by Mr. D's plan of "tiering-up" the same as for comb honey, and saving time and labor by extracting all at once in the fall.

Mr. Camm would rather produce extracted honey at 10 and 12 cents per pound than comb honey at 18 and 20 cents; but his market preferred comb honey.

It was generally considered that it was better to divide colonies when

one had full combs to give the new colonies, than to allow the bees to swarm naturally. The Association then adjourned to meet on the last Wednesday and Thursday in October, at the same place, the chairman, Mr. Reid and Mr. Middleton having been chosen as committee on arrangements.
WM. CAMM, Sec.

For the American Bee Journal.

The Characteristics of Syrian Bees.

REV. M. MAHIN, D. D.

I have had Syrian and Holy-Land bees for the last three years, and I have kept them side by side with Italians. I have every reason to believe that those from which I bred were pure. My first queens were pure themselves, and were fertilized by pure drones. These, I suppose, were Holy-Land queens, proper, and not of the variety to be found further north in Syria. Of the latter variety I procured two queens. I believe that they produce pure Syrian bees. I have now 20 or more colonies of these oriental bees of different degrees of purity; the most of them seem to be pure, and a few are crossed with Italians and blacks.

The first question that demands answer is, Are they productive? or, will they pay? As I have said, I have now kept them for three years, along with Italians, treated in every respect as the latter were, and I have found them every year more profitable than the Italians. While some Italian colonies have done better than some Syrian colonies, the latter have averaged higher in the amount of honey produced. Last season was, in this locality, the worst since I have kept bees, and I did not get an ounce of comb honey from any colony that was not part Syrian; I got a little extracted honey from a few pure Italian colonies. The superiority of the Syrians over the Italians, for the last two seasons, especially, was unmistakable.

The puzzle connected with the Syrians is their temper. One reports them quite gentle and easily handled, and another almost impracticable on account of their crossness; and both are right and both are wrong. When undisturbed they are inclined to mind their own business, and let all the rest of creation alone. As a rule, one may walk among the hives, or work in their vicinity and be undisturbed; I think that under these conditions they are less inclined to sting than Italians. When they are gathering honey, even at a moderate rate, they are very easily handled, if one knows how to manage them. Last summer I handled mine generally without using any smoke; sometimes I lighted the smoker, and set it down where I could get it if I should want it, but I seldom used it. At other times I opened the hives and took out sections or combs for extracting, without having the smoker lighted at all, and without being stung. But I did not dare to handle Italians in that way. I can handle Syrians more rap-

idly than Italians, especially if the bees are to be removed from the combs; they are far more easily dislodged.

In handling Syrians, smoke is of very little use. A little is sometimes useful to keep them from rushing out when the hive is first opened; but if they become angry, smoke will not subdue them. The best thing to be done in that case, if there is no danger from robbers, is to leave the hive open and go away from it for a time, when they will get over their excitement, and with proper care the needed operations can be performed. But there are exceptions to this, as to nearly all other rules in the art of bee-management. In 1883 my Syrians were as easily handled in fall as well as in summer, as the Italians; but not so in 1884. In the late autumn of this year it was difficult to handle some colonies that, earlier in the season, were very gentle. After a trial of a little more than three years, I am prepared to say that, on the whole, I find the temper of the Syrians unobjectionable.

In prolificness the Syrians certainly excel. The colonies build up in the spring and early summer with wonderful rapidity; and while the queens are very prolific, and require a good-sized brood-chamber, they are not much inclined to swarm. One of my queens has kept her hive "booming" with bees for more than two years, and there has been no attempt at swarming. I have given them plenty of room in which to store honey, and they have been content to stay at home and work. It has been said that a Syrian queen will continue to lay as long as there is a drop of honey in the hive, but this is a great mistake. When the honey harvest ceases, breeding ceases; but winter generally finds the hives well stocked with bees, and, as they winter well, they are apt to be in good condition to resume business in the spring.

As to the quality of the honey stored by the Syrians, I see no difference between it and that stored by Italians. Their honey is always thick and heavy, never being sealed until it is thoroughly ripened; their comb honey is, in general, like that of the Italians in appearance. Perhaps two of my colonies make dark looking comb honey, the caps fitting down smoothly on the honey, and being so thin that it shows through; but I have had Italians do the same thing.

Syrian queens mated with Italian drones produce very fine bees. In temper they resemble the Syrians more than the Italians, and they are very fine workers. I have some colonies half Syrian and half black; these I regard as more desirable than the cross between the Italians and blacks, because they are as good workers, and are less vicious—at least I have found them so thus far; but my experience with them is limited.

The most beautiful bees that I have are the progeny of an Italian queen and a Syrian drone. The silver gray hairs of the Syrians on the beautiful golden color of the Italians has a very pleasing effect. They have had no

opportunity, as yet, to exhibit their qualities as workers. For queen-rearing the Syrians are greatly superior to the Italians; they build more queen-cells, feed the young queens better, and so rear better queens.
New Castle, Ind.

Read at the Maine State Convention.

Hints to Beginners in Bee-Keeping.

J. B. MASON.

This is truly a subject of vast importance, at least to beginners if to none other. As I look back to my own beginning in bee-culture and think of the many discouragements with which I had to contend, owing to not having any one to instruct me, I feel for the beginner to-day, and am glad to be able to aid him, if ever so little.

The beginner in bee-keeping is ordinarily fired with enthusiasm and bound to (in imagination at least) make the business not only a success, but a matter of profit from the start. In this he will not be disappointed if he is willing to be governed by the advice of those of experience to whom he may apply for assistance; but if he (as many have done) takes the matter into his own hands, and regardless of the valuable warnings and attempts to do in his first season what an expert would deem a perfectly safe and easy matter, he will surely be court-ship failure.

The first aim of the beginner in apiculture should be to post himself fully in the theory of the business, by a careful study of some one or more of the best works on the subject, which should not only be read, but, as I have said, carefully studied. One may keep bees, and for a time make the business comparatively successful without this preparatory study, but, like all other occupations into which science enters largely, a thorough theoretical knowledge of principles is of the utmost importance, and will insure success, when otherwise failure would inevitably result. Having attained this theoretical knowledge, his next step should be to choose the form of frame which he will use, and in this choice he will meet with much diversity of opinion, and it behooves him to be careful. The Langstroth frame, however, has been used, and has stood so well upon its merits with our ablest apiarists, that the beginner will do well who makes it his choice. Having decided the form of frame to be used, he should procure a few bees and locate his apiary; if possible his hives should face the east or southeast, and should be in plain sight of his house, so that any signs of swarming in its season, or any disturbance at any time, can be seen and remedied.


On the north and west sides of the apiary a tight fence or good, snug hedge should be placed as a wind-break. Bees are seldom destroyed by cold, but they do suffer much from the disturbance caused by high winds and severe gales, and anything done to relieve them in this direction is profitable. The hive should be placed

low down, not more than 6 inches from the ground, and the whole space around it should be kept perfectly clean and free from weeds. The hives should not be nearer than within 6 feet of one another, if natural swarming is to be depended upon; if increase is to be made artificially, they can be within 3 feet of one another.


Having located his apiary, the beginner is now ready to learn by practical work among the bees, to apply to the best advantage the principles with which he has already familiarized himself, and right here is the "rock on which too many slip," viz: they are too ambitious, and want to increase their number of colonies too fast to simultaneously secure a large yield of surplus honey. The beginner naturally desires rapid increase, and at the same time looks for some of those remarkable yields of honey that he reads of as having been secured. His first desire was increase, second surplus; the first he secures, the second he does not; and so he at once forms the conclusion that his location is not a good one for honey. Now this rapid increase and large surplus cannot be secured at the same time, except in particular cases. Let it be remembered that every move made towards increase, whether made naturally or by dividing the colonies, is in exact opposition to the storing of honey. To secure a good crop of honey there are four things absolutely necessary: 1. To secure a knowledge of the flora of the locality, to know every flower within flight-range, and its time of duration of such secretion. By this means he will be able to know just when to put on and when to take off sections, when to feed for stimulating or otherwise—in fact, such knowledge will be the key to the situation, and the means by which he can turn an ordinarily poor season into a productive one. 2. At the time the honey-flow commences, to have the hives full of bees. 3. To keep the whole working-force together through the entire honey-flow. There are different methods of accomplishing this, some one of which the bee-keeper should adopt. 4. The flowers must contain the honey, else the crop cannot be secured.

I have only attempted to outline some of the difficulties that a beginner meets at the outset. Fellow bee-keepers, we are all working in unity and harmony for the common good of our common cause. Let us hope that our meetings, small though they are in point of numbers, and springing as they have from weak beginnings, will eventually grow till they become, as they should, a power in the land. They will, if we only do our part well. Shall we not do it?

Mechanic Falls, ♀ Maine.

 The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.

WM. B. LAWRENCE, Sec.

 The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, June 5, 1885.

E. W. TURNER, Sec.

For the American Bee Journal.

Methods of Curing Foul Brood.

A. W. OSBURN.

On page 245, Mr. G. M. Doolittle gives his experience in curing foul brood, and his method of cure is precisely what I have practiced for many years in California, i. e., fire and water. While I have been here I have tried the phenol method, but did not succeed with it; perhaps I did not do it right. I do not condemn Mr. Cheshire's treatment, because I did not succeed with it, but the old way will succeed.

As to confining the bees of a diseased colony, it makes this difference: If you take the bees and put them on empty frames, it is not necessary to confine them, or starve them; because, as Quinby says, the honey which the bees have with them will be consumed in building comb. I have never tried putting the bees on foundation, but if the colony was small, so that several days would elapse before there was any comb completed for the queen to lay in, it would be a success. I have tried full, drawn-out combs, to no purpose; for the bees would store the honey that they took with them, and when the eggs hatched feed it to the larvæ.

Again, I have caged the queen, put the bees on full, drawn-out combs, and kept the queen caged three days, so the honey would be consumed before there was any eggs laid; but I invariably failed, as there would be sure to be honey left that contained the disease, and my trouble was lost. So now I confine the bees three days, and give them water once a day, for more bees will perish for want of water while confined, than there will for want of food in that length of time.

Nothing could please me better than to know that some American apiarist had succeeded in curing the Simon-pure foul brood by the Cheshire method of treatment; then I should be encouraged to try again.

Cuba, W. I.

For the American Bee Journal.

The Wintering Problem.

J. F. LATHAM.

The solution of the wintering problem, if an opinion may be formed from the details of last winter's experiments as they appear in the BEE JOURNAL, seems to exist in the simple process of allowing well constituted colonies of bees the privilege of surviving the winter on the strength of their bodily vigor; the superior intelligence of the manipulator being but a minor auxiliary to the workings of nature, through bee-instinct. The fact is very apparent that mechanical efforts, counter to the instinct of the honey-bee, fail to list among the requisites of hibernation in the only one applicable sense of the term, if the original is allowed credit for the root, on which our linguists have con-

structed the word, and assigned its definition; especially when observation leads to the conclusion that bees hibernate "scientifically" at any season of the year—accepting consequent hibernal requirements as a necessary repose, incident to the season of actual hibernation during the winter months.

During the season of winter repose, or "pralaya"—if the term "pralaya" be admissible—the habitual requirements of the honey-bee evince the embodiment of certain prime requisites, or one requisite to each instinctive demand; viz: 1. A healthy body. 2. Wholesome food. 3. A clean domicile. 4. Warmth sufficient to prevent devitalized functionality. 5. Pure air drawn from a quiet source. 6. Quietude. Other factors might be added to the foregoing as adjunctives, but they can be only accounted as results of the preceding requisites—not as co-workers.

At this point, although making the statement with reluctance, I think that a slight defect exists in the general indices of some of our apistical teachings; for, in the fullness of man's ingenuity and culture he can only apply the accomplishing means—the elements really possess the control—and only when conditions of preparation conform to climatic conditions, will bees winter uniformly in all localities; when they do co-operate, healthy colonies will pass through any winter within the limits of our latitude safely and well.

I have no hesitancy in stating that, when the general requirements that may be deduced from the foregoing as elemental in the process of winter preparation are properly applied, it will not require lengthy articles for a correspondent to narrate how he lost or killed his bees in attempting to winter them. Although destitute of originality, the statement that last winter, in this vicinity, was a severe one for bees, and, in fact, everything else possessing life, whether habituated to "scientific" hibernation or not, is no less true. With one exception, my hives are free from the accredited evidence of bee-diarrhea. The exceptional colony, as a consequence of brood-rearing and long, uninterrupted confinement, smeared the edges of the combs next to the entrance quite badly. This fact, that the diarrhetic discharges were over and about the entrance to the hive, seems to point to the devitalizing effects of cold as a factor in producing bee-diarrhea when bees are in a condition most susceptible to its influence. Although the diseased colony was weakened in numbers, their loss was not disastrous, as they are at work vigorously "building up" as fast as a cold, backward season will permit.

Four of my colonies succumbed to starvation, the consequence of having been robbed in November and December, which were unusually warm months for our seasons. The combs on which those bees died are as clean and free from offensive odor as those of a colony in a normal condition in midsummer; notwithstanding they

contain "lots" of pollen—so much that I think I was deceived in the quantity of honey they contained, last fall. From the appearance of the combs, some of the starved bees attempted to prolong their existence by eating the wax instead of the pollen. This may be an absurd opinion, but if it is absurd, correction will be appreciated, as this is the first post-mortem investigation of a colony of bees that I have performed, after having put them into winter quarters in a sound condition.

In conclusion, I believe that to have our bees winter well, their vitality must be protected. Devitalizing influences from whatever source derived are the "whats" that kill the bees; and those "whats," I believe, exist in the process of supplying or withholding the fuel needed for the production of calorific combustion, coupled with the means in general use for allowing them to receive the full measure of its effects. Give them their dues compatible with the calls of instinct, and they will organize their own system of hibernation, conform to its requirements, and be ready to accept their vernal duties, at the conclusion of their winter repose, with unimpaired vitality.

Cumberland, 9 Maine.

For the American Bee Journal.

Women as Bee-Keepers.

DR. W. G. PHELPS.

In these progressive times the sphere of woman's toil and usefulness is constantly enlarging. To the ranks of the "bread winners," females are constantly being added, who prove their right to the position by their very ability and success. The very best evidence of success in any calling, says one, is for a person to succeed. It is not strange, therefore, that ladies, having a natural taste for entomology and similar studies, should turn their attention to bee-keeping as a congenial pursuit; and enquiries are often made respecting its adoption and following, as a supplementary means of livelihood and pleasure.

Among the ranks of bee-keepers stretched over this broad land, a score or more of women might be named, who have been pre-eminently successful in keeping bees. Several are particularly noted as writers on bee-culture. Mrs. Harrison's articles, for instance, are much quoted and read with great interest by thousands. Mrs. Tucker, of Indiana, has likewise contributed much to apian literature. Both of the above named ladies are practical bee-keepers, and follow the pursuit with marked success. In this connection we might also name Mrs. Jennie Culp, who, by systematic labor, has become the owner of upwards of 100 colonies of bees, that annually bring her a neat little income.

Mrs. Culp says: "I attribute my success to having everything in readiness at the right time, my bees in a vigorous, healthy condition at the

opening of the honey harvest, and each of my surplus honey-boxes supplied with a piece of comb, or of foundation; consequently there was no time lost in the workers building comb. Last season I realized 5,000 pounds of extracted honey and 300 pounds of white comb honey. Another element of success in profitable bee-keeping I find to be keeping the bees busy. I think that in their habits they approximate us, being of higher intelligence, in that when every wish is gratified we are disposed to say, 'Soul take thine ease, thou hast much goods laid up for many years,' or, in other words, with a well filled hive they are apt to settle down into a listless, lazy condition."

Now, it is within the power of many women in our land, whose time is not now wholly occupied, to attain in a greater or less extent, just such results. It is the mental, if not the audible exclamation of many, "Oh, for an opportunity to earn an income all my own!" Here, therefore, is an open gateway to the desired goal. True, not all ladies have the taste, strength or capacity to "fuss with bees," but many have that hardly suspect it. It will therefore be a genuine surprise to themselves to find how readily they will fall into the way of handling and the general management of bees. To rob bee-keeping of some of its poetry, though, I would suggest to all women really interested, that they may expect some stings, tired backs and aching heads in properly attending to an apiary. Disagreeable things attend every calling, therefore, do not expect to find bee-culture an altogether "rosy" business. It is undoubtedly a healthy occupation, and will afford that which most of our American women so sadly need—exercise in the open air. I have scarcely a doubt that much of the present debility and physical weakness endured by the female sex of this country would pass away with the increased employment in congenial, out-door occupation, of which bee-keeping forms a type.

The "bloomer suit" would naturally suggest itself as the proper costume for a woman engaged in bee-keeping. In assisting me among the bees, my "better half," with straw hat, bee-veil and rubber or buck-skin gloves secured at the wrist, considers herself "bee-proof," and renders excellent service in manipulating the little workers. With father or brother busy in the driving work of the farm, why should not one of the daughters, or even the mother (if provided with needed help in the kitchen) take a hand in running the apiary? I doubt not that the necessary labor among the bees (more properly woman-work) will be done in a far neater and more systematic manner than if those "horrid bungling men" were entrusted with it.

Galena, 6 Md.

The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, Sec.

SELECTIONS FROM OUR LETTER BOX

Bees with Bushels of Pollen.—J. E. Hunter, Wyoming, Iowa, on May 5, 1885, writes:

Last fall I put 150 colonies of bees into the cellar, and this spring I took out 147 colonies in as nice condition as I ever had bees; and they had bushels of pollen, too.

Rearing Brood—Gathering Honey.—Isaac Sharp, Waveland, Ind., on May 7, 1885, writes as follows:

Last fall I prepared about 80 colonies on the summer stands, by removing all surplus honey arrangements, and supplying their places with chaff cushions. I gave ventilation above the cushion to keep it dry. About half the number of colonies are alive now and doing tolerably well. The spring is so very backward. The bees have gathered honey from soft and hard maple, and started brood-rearing very nicely. I hope that peculiar disease which I wrote about on page 103, will not trouble any of my bees this season. I suppose that no one could even suggest a remedy.

Report, from J. C. Stoddard, Springfield, 9 Mass., on May 5, 1885:

Bees have wintered better in this part of the country than in the West. Some few colonies have died with the diarrhea. On Jan. 12, I had 5 colonies robbed of 2 to 4 frames from each hive, and part of the bees perished on the frozen ground. Those that remained in the hives are alive yet. I kept some of my bees in the same room where I lived, the temperature being at from 45° to 50°; they consumed but little honey, and came out in splendid condition. Bees must be kept comfortable.

Western N. Y. and Northern Pa. Convention.—A. D. Jacobs, Jamestown, 9 N. Y., Secretary of this Association writes as follows:

The Western New York and Northern Pennsylvania Bee-Keepers' Association held its second annual meeting at Cuba, N. Y., on May 5, 1885. Owing to stormy weather the attendance was small. After the election of officers a few new names were added to the roll of membership, some important questions were discussed, and the convention then adjourned to Salamanca, N. Y., on Tuesday and Wednesday, Sept. 1 and 2, 1885.

Late Spring—Cool Weather.—Dr. H. M. Williams, Bowdon, Ga., on May 6, 1885, writes as follows:

Never since I have been keeping bees have I seen such a late spring. My bees came through weak, but they are getting strong now. We generally have the most of our swarming in April, but this year I have had only 4 swarms, and 2 of them came out of the same hive. I am rearing some fine queens, and I made my nuclei the easiest this year that I ever did. I sold some colonies, but some of the bees came back, and so I gave them a frame of brood, and they are doing finely. I sold one colony, moved it about one mile, and I am confident that half the bees came back. I gave them a frame of fine brood, and let them rear a queen. I am fearful that we are going to have a bad honey year here, for May and June are the main honey months, and the weather keeps too cool for bees to do much.

Bees Working on Apple Bloom.—W. B. Zinn, Holbrook, Va., on May 8, 1885, reports as follows:

We have had a very cold winter here, and a great many bees perished for the want of food and suitable hives to withstand the severe winter. Bee-culture is in its infancy in this State. The latter part of last summer was so dry that the bees did not gather honey enough to winter on, and feeding bees sugar is yet a great novelty with some people here. Last Nov. I had 27 colonies which I doubled back to 22, and fed them 190 pounds of granulated sugar. I had 18 colonies in chaff hives, of which I took out all the frames in the upper story and put in five inches of wheat chaff; the other 4 colonies were in single-walled hives. From those 4 hives I took out 4 frames and put in 2 thin division-boards on each side of the brood-nest, and put in chaff between them and the sides of the hives, and a chaff pillow on top of them. They all wintered well, and all seemed healthy. One colony starved in the first week in April, but it was my fault. My bees were wintered on the summer stands. They are working finely now on apple bloom.

Shipping Bees.—James B. Mason, Mechanic Falls, Me., writes thus in regard to the cost of shipping bees:

I wish to ask whether the classification of bee-keeping goods, as published in the BEE JOURNAL and discussed at the Bee-Keepers' Congress held at New Orleans last February, applies to freight or express, or both. Bees are sent mostly by express, and the express companies will not hold themselves responsible for any damage on bees, and still persist in making outrageous charges. I have just received two lots of bees from Tennessee; the first lot was 12 five-frame colonies all packed in 3 boxes, each box weighing about 75 pounds. They were billed at 100 pounds each, and the express company's bill was \$27.25. In a few days another lot came, exactly like the first, from the same party, and over the same route, as near as I can ascertain, and the bill on this lot was \$17.50. Now, what should cause this difference in charges? The first lot of bees cost, from Clifton, Tenn., to Portland, Maine, over \$8 per 100 pounds; and this without any responsibility on the part of the express company.

[The classification as published referred only to freight charges. Probably the first charge was a mistake of the billing clerk. An application to the express company for a REBATE would be wise.—ED.]

Report, from M. Bailey, Winterset, Iowa, on May 12, 1885:

Bees wintered poorly in this section, from 90 to 95 per cent. being dead. Unwholesome winter stores, improper care and severe cold caused the trouble.

Good Prospects in Utah.—Jno. Dunn, Tooele, Utah, on May 7, 1885, reports as follows:

Our loss in wintering was light, as the winter was what we call an open one. I wintered my bees mostly on the summer stands. Four colonies I put into my extracting house, but the mice got at them and done more harm than Jack Frost did to those that were outside. As for the spring, I have never seen such for blossoms as the present one, and the bees are "working like beavers," only they make more noise. On May 5 my first swarm for the season issued, and upon examination I found a good many colonies preparing to swarm. I was not quite through with

the first swarm, when I was called to attend to another, and I expect that I will have plenty to do now until the swarming-fever is over. I did not have my bees packed on the stands, nor in the honey-house, and I have lost less than some that packed theirs. One bee-man told me that he had packed up his bees good, for he had not one colony now out of three. My loss was 2 out of 22; now I have 23 all in good condition. Some have an idea that we were overstocking our locality, but I have found out that those who say so do not have colonies strong enough to prove to them what can be done even in this much-believed overstocked place. I like to keep my colonies strong. I do not believe in keeping so many colonies—no more than I can keep strong; but last year was rather adverse to keeping bees strong. Our present prospect has never been better in the past three years, and if the caterpillars and worms keep away, we will be able to give a good report next fall.

Orange and Magnolia Honey.—C. F. Henning, Citra, Fla., on May 4, 1885, says:

I have a lot of pure orange-bloom honey this year. Bees are working now on the magnolias, several varieties of which are growing here in abundance.

Extracting Honey.—E. V. Elder, Lake Village, Ark., on May 1, 1885, says:

So far this year my bees are doing splendidly. I extracted a little honey on April 29, but I had to quit on account of robbing. I intend to commence extracting in earnest on May 4. I have 67 colonies, spring count. I had one swarm on April 19. I think that if Mr. Heddon would extend the arm on each end of his reversible frame clear down to the bottom-bar, it would be better, for then the bees could not put propolis below their ends. I think it would reverse more easily, and the end-bars would always be clean.

Four-Fifths of the Bees Dead.—A. Reusch, (23—30), Chariton, Iowa, on May 7, 1885, writes thus:

The past winter was a terrible one on bees in all the Northern States, about 75 per cent. of all the bees being dead, and a good many that are left are weak and diseased. I have made quite extensive inquiries of the bee-men, and received the same answer from all—"dead! dead!" We had in this county (Lucas) about 2,000 colonies, and about 1,600 of them have died. Extreme cold and poor stores gathered from elder and cane mills caused diarrhea among them, and a good many did not have the protection they should have had. The most of the bee-keepers lost all they had, while a few saved nearly all of their bees. I lost 3 out of 33 colonies, one with diarrhea, and I am ashamed to admit that 2 of them starved after they had wintered nicely, and after I had carried them out of the cellar, and had the feeders in the hives, and the sugar in the house to feed them with. I carried my bees out of the cellar on March 2, and they brought in pollen on the last day of March. All but 3 colonies are in good condition, and the 3 are weak, but I can build them up into strong colonies by the time the honey harvest comes on.

Still Snowing.—J. M. Doudna, Alexandria, Minn., on May 10, 1885, writes:

We had 2 inches of snow on May 6. On May 7 the ground froze hard, and we had a Manitoba zephyr with snow again on May 8. I shall lose the most of my bees.

Argument vs. Invective.—W. Z. Hutchinson, (68—40), Rogersville, Mich., writes thus:

I was pleased, Mr. Editor, to see the stand that you have taken in regard to offensive personalities. I may have been among the correspondents whose communications were "dumped" in the waste basket; if they contained offensive personalities, 'tis well that they were "dumped." Let us use strong arguments and vigorous language, but let us be courteous.

No Loss in Wintering.—2—J. Raymond Ball, (27—27), Knowlton, Quebec, on May 11, 1885, writes thus:

I put out my bees on April 22, after having been confined 173 days, and I found them all alive and generally in good condition, with brood in nearly every hive. (Those who would like to know how and where my bees were wintered, I would refer to page 43.) As the weather was warm, I commenced with an extra hive, and cleaned them all out in good shape, and by the time I got through, the first ones had begun to gather pollen. They worked that night until after sundown, and the next morning they were at it again before sunrise; and that day the mercury was at 80° in the shade. It came on cold after that, and there has not been but 2 or 3 parts of day since, when bees could work. I found that the colonies which were the nearest to the stove and the farthest from the wall had wintered the best. One very large colony that came out as a swarm on June 17, 1884, and gathered 50 pounds of surplus comb honey, was not more than 5 feet from the side of the stove (the thermometer that hung on the end of it would often run up to 65° and 70°), wintered perfectly; and the 3 colonies put together last fall and fed up on sugar syrup, also wintered all right.

Practically No Loss in Wintering.—Ira Barber, De Kalb Junction, N. Y., on May 13, writes as follows:

My bees are all on the summer stands, after the tumbling they have taken in removing and wintering. My loss is 4 colonies out of 200—2 were so badly broken up that they failed to winter, one starved and one was queenless. I began to put them out on April 17, but the weather was so cold from that time until May, that the bulk of them were left in the cellar until May 1 to the 9th. I have not as even a lot of bees as I have had for the last 8 years, but the most of this was caused in locating so many in a strange yard. They came out bright and clean, except about 20 colonies that were placed too near the bottom of the cellar, in so low a temperature that their hives were quite badly soiled; while those 6 inches higher were bright and clean. In a cellar as good as mine has been—45° to 48°—bees should be placed one foot or more above the bottom of the cellar, where the cellar is very damp; and I consider a warm, damp cellar (and I will say a very damp one), the only safe place to winter bees in. In such a cellar bees winter safely if they have enough of honey, without regard to the time it was gathered, or how much pollen they may have in it; as there will be no discharges from the bees, as a rule, unless it is in a dry state. Bees cannot survive in a warm, dry room for 5 or 6 months, yet they will come out in splendid condition after remaining in a warm, wet room for that length of time. Will some of the great bee-teachers, who never wintered their bees successfully, please tell us why this is so? The prospect for a good honey season in Northern New York is good. Clover has wintered well, and as basswood was a failure last year, we are looking for

something from it this year. If we have good weather, a large crop of honey is expected, as there is no loss of bees in this section.

Local Convention Directory.

1885. *Time and place of Meeting.*
 May 28.—Southern Indiana, at Madison, Ind.
 C. Firth, Sec., Madison, Ind.
 May 28.—N. Mich. Picnic, near McBride, Mich.
 F. A. Palmer, Sec., McBride, Mich.
 May 29.—Haldimand, Ont., at Nelles' Corners, Ont.
 E. C. Campbell, Sec.
 June 5.—Mahoning Valley, at Newton Falls, O.
 E. W. Turner, Sec., Newton Falls, O.
 June 19.—Willamette Valley, at La Fayette, Oreg.
 E. J. Hadley, Sec.
 Dec. 8—10.—Michigan State, at Detroit, Mich.
 H. D. Cutting, Sec., Clinton, Mich.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Special Notices.

As some inquiries have been made by the readers of the BEE JOURNAL as to the result of the fire on May 4, which consumed the major part of three upper floors of my store, burning some extracted honey, but not injuring the lower or sales floor on which stood the comb honey, I can say that my loss was protected by insurance, and that I am doing business at the old stand and having the damage done to the upper floors repaired.
 R. A. BURNETT.

Chicago, Ills., May 11, 1885.

Supply dealers' Circulars and Price-Lists for 1885 have been received from T. Pierce, Gansevoort, N. Y.; J. H. Tilley & Bros., Castle Hill, Maine; and M. C. Von Dorn, Omaha, Neb.

For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail, postpaid.

To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, \$2.50. Five hundred will be sent postpaid for \$10.00; or 1,000 for \$15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the beekeeper who scatters them).

All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages).....\$1 00
 " 100 colonies (220 pages).....1 25
 " 200 colonies (420 pages).....1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Preserve your papers for reference. If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

The Bee-Keepers' Association of Southern Indiana will meet at Madison, Ind., on Thursday, May 28, 1885, at 9 a. m., in the M. M. Club Room. C. FIRTH, Sec.

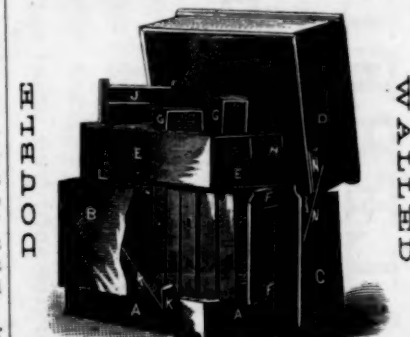
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25 HIVES with Combs for Sale
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HEDDON CASES—A BARGAIN.—I have 31 Heddon Cases for Comb Honey filled with nice white comb in each section—28 1-lb. sections in each case. These are genuine Heddon Cases, well-made and well-painted with two coats of white paint. Will fit any 8-frame Langstroth Hive. Will sell the lot for \$15. The best arrangement out for comb honey. I am changing my apiary for extracting.

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The Best Arranged

BEE-HIVE for all purposes in existence. Sample Hives complete, \$2.50 each; in the flat, in lots of six, \$1.75 each. Descriptive Circular sent FREE. Address

E. ARMSTRONG, Jerseyville, Ills.
 19A4t 6B1t

Hives and Combs for Sale

100 good 10 f. L. Hives, one story (sec. hand) \$1.00 each; good, straight empty Combs for same, 10c. each. Heddon Cases for 10 f. Hives, painted two coats white, for 1-lb. sections, 40 cents.

Address D. G. WEBSTER.
 20A2t BLAINE, Boone Co. ILL.

Sweet Clover

—FOR—

BEE PASTURAGE.

IT MAY be sown on all waste places at any time, and will grow on any soil—in any climate. Price, 30 cents per pound; \$2.75 per peck; \$10.00 per bushel (60 lbs.)

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Apiculturist Experimental Bee-Farm

HENRY ALLEY, Superintendent.

Will be devoted to rearing the BEST Queens for honey-producing purposes and wintering qualities that can be produced. We have purchased from Mr. Alley, among other stock, 25 colonies of orange-yellow bees for breeding purposes, and they are

BEES THAT HAVE WINTERED

in fine condition and are building up rapidly, and cannot be excelled in any regard. Until June 20 we will send for \$1.50 the

AMERICAN APICULTURIST

for one year, commencing with the June number (as we have but few back Nos.) and one of our choice \$1.50 Queens, either Italian, Syrian Holy-Land, Cyprian or Albino. We guarantee that these Queens shall be first-class in every respect. No Queens shipped until the first week in June. Our enlarged "Bee-Keepers' Companion," (sent free) contains our Circular and Price-List, a likeness of Mr. Henry Alley, the veteran Queen-breeder, and much valuable instruction. It also contains a number of Club offers, as good as the above, which expire June 20.

If you want a first-class Queen and a good bee-paper cheap, send your order at once. Make all Postal Notes and Money Orders payable at Salem, Mass. Address **SILAS M. LOCKE & CO.** Successors to Henry Alley. WENHAM, MASS.
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FOR SALE All the volumes of the AMERICAN BEE JOURNAL (20 years) bound—**for \$50.00.**
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In answer to frequent inquiries for Extractors carrying 3 and 4 Langstroth frames, I have concluded to adopt these two new sizes. The 3 frame basket is in a can of the same size and style as the 2 frame. The 4 frame basket is in the larger can, with the cone or metal standard for the basket to revolve upon, leaving room underneath the basket for 75 or 80 lbs. of honey. It will be complete, with covers, and in every way identical, except in size, with the \$16.00 Extractor, 13x20, which is intended for any size of frame. Excepting with the \$8.00 Extractors, all the different styles have strainers over the canal leading to the honey gate, and movable sides in the Comb Baskets. The \$8.00 and \$10.00 Extractors have no covers.

For 2 American frames, 13x13 inches.....	\$8 00
For 2 Langstroth " 10x18 "	8 00
For 3 " " 10x18 "	10 00
For 4 " " 10x18 "	14 00
For 2 frames of any size, 13x20 "	12 00
For 4 " " 13x20 "	16 00

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923 West Madison St., CHICAGO, ILL.

TO MY FRIENDS AND FORMER CUSTOMERS

I HAVE made arrangements with SILAS M. LOCKE & CO., of Wenham, Mass., to rear Queens at the Apiculturist Experimental Bee-Farm, and to act as Superintendent of the same. By so doing, my former patrons will have their orders for Queens filled promptly, and as I have sold them, among other stock, 25 colonies of the finest orange-yellow bees that can be found in the world, you can depend on getting the BEST Queens that can be produced. I cheerfully recommend these parties as honorable and fair-dealing men, and all will be dealt with in a straight-forward honest manner.

20A2t HENRY ALLEY, Wenham, Mass

The VICTOR HIVE

DOUBLE-WALLED or CHAFF-HIVES
5 in one lot, each, \$3.50; 10, each, \$3.40;
25, each, \$3.25; 100, each, \$3.00—in the Flat.

SINGLE-WALLED HIVES, 5 in one lot,
\$ each, \$2.50; 10, each, \$2.40; 25, each,
\$2.25; 100, each, \$2.00—in the Flat.

WHITE POPLAR DOVETAILED SECTIONS, any size under 6x6x1 1/4, per 1,000, \$6.00. Perfectly accurate; no better.

APIS AMERICANA.—Orders for Queens of the beautiful **SYRIO-ALBINO**, will now be received. Reared by my new method, all are large and fine and perfect. We have made a great discovery in Queen-Rearing, and hereby challenge the production (by natural swarming or otherwise) of Queens that will excel ours in any valuable quality. Isolated 3 miles from other bees. First come, first served. Send for circulars.

Address, **DR. G. L. TINKER**,
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PURE PHENOL

I can furnish Pure Phenol for the cure of **FOUL BROOD**, as described by Mr. Frank Cheshire, of London, England. As it is a liquid, it can be sent only by express. Price, 25 cents per ounce, delivered at the express office in Chicago.

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We have added to our LARGE FACTORY a
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White Poplar Dovetailed SECTIONS.

☞ All Orders will be filled promptly at the
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1A26t DAVENPORT, IOWA.

Dadant's Foundation Factory, wholesale and retail. See Advertisement in another column.

**Bee-keepers' Supplies,**

Standard Langstroth,

Quinby Standing-Frame,

And all other kinds of Hives,

MADE TO ORDER,

Quinby Smoker a specialty.

I shall supply anything you need in the Apiary
Send for Illustrated Price List.

W. E. CLARK, successor to L. C. Boot,
7A17t ORISKANY, Oneida County, N. Y.

60 Colonies of BEES FOR SALE.

For particulars, call upon, or address,

A. L. EDWARDS, SKANEATELES, N. Y.
14A8t 5B1t

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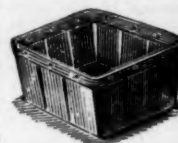
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